



UNITED STATES PATENT AND TRADEMARK OFFICE

ma
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/971,851	11/17/1997	LOYD R HORNBACK III	53249USA5A	4843
32692	7590	02/11/2004		
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
			EXAMINER TRAN, HIEN THI	
			ART UNIT 1764	PAPER NUMBER

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. Box 1450
ALEXANDRIA, VA 22313-1450
www.uspto.gov

MAILED

FEB 11 2004

GROUP 1700

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 0205

Application Number: 08/971,851
Filing Date: November 17, 1997
Appellant(s): HORNBACK III ET AL.

Donald A. Schurr
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/25/03.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

However, with respect to issue #1, since appellants submitted the corrected drawings with the brief filed 11/25/03, the objection to the drawings has been withdrawn.

With respect to issues #2-3, upon further reconsideration, the 112 rejections have been withdrawn.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 12-16, 18-20, 23-25, 27-31, 34 and 36-47 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

JP 61-89916	KITAMURA et al	5-1986
JP 2-61313	KUSUDA et al	03-1990
US 5,332,609	CORN	07-1994

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 12-16, 18-20, 23-25, 27-28, 34, 36-38, 42-47 are rejected under 35 U.S.C. 103(a) as obvious over JP 61-89916.

With respect to claims 12-15, 24-25, 28, 34, 36, JP 61-89916 discloses a pollution control device comprising:

a housing 3 containing a pollution control element 2, a mounting article disposed between the housing 3 and the pollution control element 2; wherein the mounting article comprising a sheet material 1 having major top and bottom surfaces, a thickness, a length, a width and having a plurality of score lines in the top and bottom surfaces of the sheet material 1 (Fig. 1).

JP 61-89916 further discloses that the score lines are disposed across the longer direction of the sheet material which appears to be the direction of the gas flowing (Fig. 2) depending on the size of the pollution control element.

It would have been obvious to one having ordinary skill in the art to select an appropriate direction for the score lines, e.g. across the width or the length on the basis of its suitability for the intended use as a matter of obvious design choice, absence showing any unexpected results, since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines as long as to achieve the same effect (pages 3-4 of the translation of JP '916 - PTO: 99-3188) and since appellants also admitted on page 6, lines 28-31 that the score lines can extend in any direction: across the width or the length of the sheet material, i.e. parallel or perpendicular to the gas flow which is another evidence showing that the orientation of the score lines is not critical.

Art Unit: 1764

With respect to claim 16, JP 61-89916 shows that the depth of the score line is within the range of 5-90% of the thickness of the sheet material 1 (pages 4-6 of the translation of JP '916 - PTO: 99-3188).

With respect to claim 19, JP 61-89916 discloses that the sheet material 1 is ceramic fiber (page 4 of the translation of JP '916 - PTO: 99-3188).

With respect to claims 13, 18, 24-25, 38, JP 61-89916 discloses that the sheet material has a plurality of score lines in both top and bottom surfaces (page 3 of the translation of JP '916 - PTO: 99-3188).

With respect to claim 23, JP 61-89916 discloses that the monolith has round shape (Fig. 2, page 5 of the translation of JP '916 - PTO: 99-3188).

With respect to claims 18, 27, 37, 42-47, JP 61-89916 discloses that the cross section of the score-line is U-shape (see the groove in Fig. 1), or in form of a repeating pattern, such as a wave (page 4 of the translation of JP '916 - PTO: 99-3188). JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines as long as to achieve the same effect (pages 3-4 of the translation of JP '916 - PTO: 99-3188). Therefore, it would have been obvious to one having ordinary skill in the art to select an appropriate shape for the score lines, on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916, absence showing any unexpected results thereof.

4. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-89916 as applied to claims 12-16, 18-19, 23-25, 27, 34, 36-38, 42-47 above and further in view of JP 2-61313.

Art Unit: 1764

With respect to claim 19, JP 61-89916 discloses that the sheet material comprises ceramic fiber. JP 2-61313 discloses that the sheet material comprises inorganic fiber, vermiculite, etc., e.g. intumescent material. It would have been obvious to one having ordinary skill in the art to select an appropriate material, such as intumescent material, as evidenced by JP 2-61313, in the apparatus of JP 61-89916 on the basis of its suitability for the intended use as a matter of obvious design choice, as such is conventional in the art and no cause for patentability here.

With respect to claim 20, the depth of the score line of JP 61-89916 is within the range of 5-90% of the thickness of the sheet material.

5. Claims 29-31, 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61-89916 in view of Corn (5,332,609).

The same comments with respect to JP 61-89916 apply.

Corn discloses the oval shape for the pollution control element. It would have been obvious to one having ordinary skill in the art to select an appropriate shape for the pollution control element, such as the oval shape taught by Corn, as such oval shape is conventional in the art and no cause for patentability here.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select an appropriate location for the score lines on the basis of its suitability for the intended use as a matter of obvious design choice, absence showing any unexpected results, since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines as long as to achieve the same effect (pages 3-4 of the translation of JP '916 - PTO: 99-3188), and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Art Unit: 1764

With respect to claims 41, 46, it would have been obvious to one having ordinary skill in the art to select an appropriate shape for the score lines, on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916, absence showing any unexpected results thereof and since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines.

6. Claims 12-16, 18-20, 23-25, 27-28, 34, 36-38, 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2-61313 in view of JP 61-89916.

JP 2-61313 discloses a pollution control device comprising:

a housing containing a pollution control element 1 and said mounting article 5 disposed between the housing and the pollution control element 1; wherein the mounting article 5 comprising a sheet material 5 having a major top and bottom surfaces, a thickness, a length, a width and having a plurality of score lines 11 in the top and bottom surfaces of the sheet material 5 and across the width of the sheet material 5. With respect to claims 19-20, JP 2-61313 discloses that the sheet material is vermiculite, e.g. intumescent.

The same comments with respect to JP 61-89916 apply.

It would have been obvious to one having ordinary skill in the art to select an appropriate length and orientation for the score lines, such as extending the entire length or width in the apparatus of JP 2-61313 as taught by JP 61-89916 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines thereof on the basis of its suitability for the intended use as a matter of obvious design choice.

It would have been obvious to one having ordinary skill in the art to select an appropriate direction for the score lines, e.g. across the entire width or length on both surfaces of the sheet

Art Unit: 1764

material on the basis of its suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines and since appellants also admitted on page 6, lines 28-31 that the orientation of the score lines has no criticality because the score lines can extend in any direction: across the width or the length, i.e. parallel or perpendicular to the gas flow.

It would have been obvious to one having ordinary skill in the art to select an appropriate depth for the score line on the basis of its suitability for the intended use as a matter of obvious design choice as evidenced by JP 61-89916, and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

It would have been obvious to one having ordinary skill in the art to select an appropriate shape for the score lines, on the basis of its suitability for the intended use as a matter of obvious design choice in the apparatus of JP 2-61313 since JP 61-89916 discloses that any shape, any number or any arrangement can be used for the score lines.

7. Claims 29-31, 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2-61313 in view of JP 61-89916 and Corn (5,332,609).

The same comments with respect to the JP references and Corn apply.

Allowable Subject Matter

8. Claim 26 is allowed.

(11) Response to Argument

In several locations in the brief, Appellants urge that:

1) Appellants argue that the grooves 1a of JP 61-89916 extend only in the length direction of the sheet material, rather than across its width; e.g. grooves 1a run the length of the mat, circumferentially about the honeycomb catalyzer and perpendicular to the gas flow.

Such contention is not persuasive as although JP 61-89916 only shows the score lines extending in the length of the sheet material in Fig. 1, JP 61-89916 further discloses that any shape, any number or any arrangement means can be used for the score lines as long as to achieve the same effect of improving winding performance while maintaining excellent air-tight capability (pages 3-4 of the translation of JP '916 - PTO: 99-3188).

It should be noted that it has been held that a disclosure in a reference is not limited to its specific illustrative examples, but must be considered as a whole to ascertain what would be realistically suggested thereby to one ordinary skill in the art. *In re Uhlig*, 54 CCPA 1300 376 F2d 320; 153 USPQ 460.

2) Appellants argue that the phrase of "arrangement means" is directed to the process by which the score lines are arranged on the sheet material, rather than their orientation according to the translation submitted by appellants.

Such contention is not persuasive as it is merely a statement. The examiner believes that JP '916 teaches that the score lines (grooves) can have any shape, any number or any arrangement means as long as to achieve the same effect of improving winding performance while maintaining excellent air-tight capability (pages 3-4 of the translation of JP '916 - PTO: 99-3188). Since the grooves can have any arrangement as set forth by JP '916, it would have been obvious to one having ordinary skill in the art to extend the groove in any directions, e.g. either the length or width, as long as to achieve the same effect of improving winding

Art Unit: 1764

performance while maintaining excellent air-tight capability. Also it is unclear as to which translation appellants are intended to use, the PTO translation, or the translation provided by appellants. It should be noted that the PTO translation is relied upon throughout the prosecution of the instant application.

3) Appellants argue that there is no motivation to modify the grooves of JP '916 since if the grooves of JP '916 were positioned across the entire width, the sheet material would be unlikely to maintain its excellent air-tight capability since exhaust gas may flow through the spacing between the sheet material and the pollution control element.

Such contention is not persuasive as the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, JP '916 requires that the grooves in the sheet material are constructed so as to improve winding performance as well as to maintain excellent air-tight capability. JP '916 further discloses that after placing the mat (sheet material) in the gap between the catalyst and the casing, an excessive compressed force is applied to move the ridges 1b to the grooves 1a in order to improve sealing performance of the seal mat as required by JP '916 (page 3 of the translation of JP '916 - PTO: 99-3188). Since the ridges are moved into the grooves, the exhaust gas cannot flow therethrough.

Furthermore, it is unclear as to whether any of the exhaust gas can leak through the score lines in the sheet material of the instant invention because the instant score lines run parallel with the exhaust gas flow?

4) Appellants argue that it is not proper to ignore the differences between the instant invention and the prior art on the basis that the instant invention also discloses a less preferred embodiment which is disclosed in the prior art.

Such contention is not persuasive as the differences, if any, between the instant invention and the prior art have been addressed in the final rejection and herewith. The fact that the instant invention discloses that the score lines can extend either the length or the width of the sheet material, is an evidence showing that arrangements of the score lines are not critical and provide no unexpected results thereof.

JP '916 further discloses that any shape, any number or any arrangement means can be used for the score lines as long as to achieve the same effect of improving winding performance while maintaining excellent air-tight capability.

5) Appellants argue that the score lines of JP '916 do not have a V-shaped nor vertical line shaped.

Such contention is not persuasive as JP '916 discloses that any shape, any number or any arrangement means can be used for the score lines as long as to achieve the same effect of improving winding performance while maintaining excellent air-tight capability (pages 3-4 of the translation of JP '916 - PTO: 99-3188). Therefore, it would have been obvious to one having ordinary skill in the art to select an appropriate shape for the score lines, on the basis of its

Art Unit: 1764

suitability for the intended use as a matter of obvious design choice as taught by JP 61-89916, absence showing any unexpected results thereof.

6) Appellants argue that Corn does not disclose any score lines. That may be so, however, Corn is only relied upon for teaching the oval shape of the catalyst.

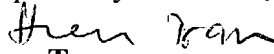
7) Appellants argue that JP '313 does not disclose a score line across the entire width of the sheet material. However, the secondary reference, JP '916 discloses that any shape, any number or any arrangement means can be used for the score lines as long as to achieve the same effect of improving winding performance while maintaining excellent air-tight capability (pages 3-4 of the translation of JP '916 - PTO: 99-3188).

(12) Conclusion


For the above reasons, it is believed that the rejections should be sustained.

HT
February 5, 2004


Respectfully submitted,


Hien Tran
Primary Examiner
Art Unit 1764

Conferees
Glenn Caldarola
Shrive Beck


Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700

SCOTT A BARDELL
3M OFFICE OF INTELLECTUAL PROP COUNSEL
PO BOX 33427
ST PAUL, MN 55133-3427


SHRIVE P. BECK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700